

Reference Material 2 Icom Exempted Substance List ver.6.0

With respect to the exempted substances in the RoHS Directive, those relevant to parts and materials the Icom Group procures are included in the Icom Group Exempted Substance List. Icom Group exempted substances are listed below.

* Follow the texts of the RoHS Directive if they differ from those of each item (reference: page 10 and thereafter).

No.	Exemption	Scope and dates of applicability
1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	
	(a) For general lighting purposes < 30 W	2.5 mg
	(b) For general lighting purposes $\geq 30 \text{ W}$ and $< 50 \text{ W}$	3.5 mg
	(c) For general lighting purposes $\geq 50 \text{ W}$ and $< 150 \text{ W}$	5 mg
	(d) For general lighting purposes $\geq 150 \text{ W}$	15 mg
	(e) For general lighting purposes with circular or square structural shape and tube diameter $\leq 17 \text{ mm}$	7 mg
	(f) For special purposes	5 mg
2	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):	
	(1) Tri-band phosphor with normal lifetime and a tube diameter $< 9 \text{ mm}$ (e.g. T2)	4 mg
	(2) Tri-band phosphor with normal lifetime $\geq 9 \text{ mm}$ and $\leq 17 \text{ mm}$ (e.g. T5)	3 mg
	(3) Tri-band phosphor with normal lifetime and a tube diameter $> 17 \text{ mm}$ and $\leq 28 \text{ mm}$ (e.g. T8)	3.5 mg
	(4) Tri-band phosphor with normal lifetime and a tube diameter $> 28 \text{ mm}$ (e.g. T12)	3.5 mg
	(5) Tri-band phosphor with long lifetime ($\geq 25000 \text{ h}$)	5 mg
	Mercury in other fluorescent lamps not exceeding (per lamp):	
(b)	(3) Non-linear tri-band phosphor lamps with tube diameter $> 17 \text{ mm}$ (e.g. T9)	15 mg
	(4) Lamps for other general lighting and special purposes (e.g. induction lamps)	15 mg

No.	Exemption	Scope and dates of applicability
3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):	
	(a) Short length (≤ 500 mm)	3.5 mg
	(b) Medium length (> 500 mm and ≤ 1500 mm)	5 mg
4	(C) Long length (> 1500 mm)	13 mg
	(a) Mercury in other low pressure discharge lamps (per lamp)	15 mg
	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index $Ra > 60$:	
	(b) (I) $P \leq 155$ W	30 mg
	(II) $155 \text{ W} < P \leq 405 \text{ W}$	40 mg
	(III) $P > 405 \text{ W}$	40 mg
5	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):	
	(c) (I) $P \leq 155 \text{ W}$	25 mg
	(II) $155 \text{ W} < P \leq 405 \text{ W}$	30 mg
	(III) $P > 405 \text{ W}$	40 mg
	(e) Mercury in metal halide lamps (MH)	
	(f) Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	
5	(b)	Lead in glass of fluorescent tubes not exceeding 0,2 % by weight
6	(a) I	Lead as an alloying element in steel for machining purposes containing up to 0,35 % lead by weight and in batch hot dip galvanised steel components containing up to 0,2 % lead by weight
		(steel for machining) 0,35 % by weight (galvanised steel) 0,2 % by weight
	I	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling
	II	Lead as an alloying element in aluminium for machining purposes with a lead content up to 0,4 % by weight
7	(c)	Copper alloy containing up to 4 % lead by weight
	(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)
		85 % by weight or more

No.		Exemption	Scope and dates of applicability
7	(c)	I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound
		II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher
		III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC
8	(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs	
		Cadmium and its compounds in electrical contacts used in: —circuit breakers, —thermal sensing controls, —thermal motor protectors (excluding hermetic thermal motor protectors), —AC switches rated at: —6 A and more at 250 V AC and more, or — 12 A and more at 125 V AC and more, —DC switches rated at 20 A and more at 18 V DC and more, and —switches for use at voltage supply frequency ≥ 200 Hz.	
9	(a)	II	Up to 0,75% hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators: —designed to operate fully or partly with electrical heater, having an average utilised power input ≥ 75 W at constant running conditions; —designed to fully operate with non-electrical heater.

No.		Exemption	Scope and dates of applicability
11	(a)	Lead used in C-press compliant pin connector systems	May be used in spare parts for EEE placed on the market before 24 September 2010
	(b)	Lead used in other than C-press compliant pin connector systems	May be used in spare parts for EEE placed on the market before 1 January 2013
12		Lead as a coating material for the thermal conduction module C-ring	May be used in spare parts for EEE placed on the market before 24 September 2010
13	(a)	Lead in white glasses used for optical applications	Expires on 21 July 2021
	(I)	Lead in ion coloured optical filter glass types	Expires on 21 July 2021
	(II)	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex	Expires on 21 July 2021
	(III)	Cadmium and lead in glazes used for reflectance standards	Expires on 21 July 2021
14		Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80 % and less than 85 % by weight	May be used in spare parts for EEE placed on the market before 1 January 2011
15	(a)	Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: <ul style="list-style-type: none"> —a semiconductor technology node of 90 nm or larger; —a single die of 300 mm² or larger in any semiconductor technology node; —stacked die packages with die of 300 mm² or larger, or silicon interposers of 300 mm² or larger. 	Expires on 21 July 2021
18	(b)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi ₂ O ₅ :Pb)	1 % by weight or less

No.	Exemption	Scope and dates of applicability
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0,65 mm and less	May be used in spare parts for EEE placed on the market before 24 September 2010
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC (1)	
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	
34	Lead in cermet-based trimmer potentiometer elements	
39 (a)	Cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications (< 0,2 µg Cd per mm ² of display screen area)	
41	Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council (2))	Expires on 31 March 2022.

(dates of applicability expired)

No.		Exemption	Scope and dates of applicability
2	(b)	Mercury in other fluorescent lamps not exceeding (per lamp):	
		(1) Linear halophosphate lamps with tube > 28 mm (e.g. T10 and T12)	10 mg Expires on 13 April 2012.
		(2) Non-linear halophosphate lamps (all diameters)	15 mg Expires on 13 April 2016.
4	(d)	Mercury in High Pressure Mercury (vapour) lamps (HPMV)	Expires on 13 April 2015.
		Mercury in hand crafted luminous discharge tubes used for signs, decorative or architectural and specialist lighting and light-artwork, where the mercury content shall be limited as follows: (a) 20 mg per electrode pair + 0,3 mg per tube length in cm, but not more than 80 mg, for outdoor applications and indoor applications exposed to temperatures below 20 °C; (b) 15 mg per electrode pair + 0,24 mg per tube length in cm, but not more than 80 mg, for all other indoor applications.	Expires on 31 December 2018.
5	(a)	Lead in glass of cathode ray tubes	
6	(a)	Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0,35 % lead by weight	0,35 % by weight
		Lead as an alloying element in aluminium containing up to 0,4 % lead by weight	0,4 % by weight
7	(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications	
	(c) IV	Lead in PZT based dielectric ceramic materials for capacitors which are part of integrated circuits or discrete semiconductors	Expires on 21 July 2021

(dates of applicability expired)

No.		Exemption	Scope and dates of applicability
8	(b)	Cadmium and its compounds in electrical contacts	
		Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution	0,75 % by weight
9	(a) I	Up to 0,75% hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators (including minibars) designed to operate fully or partly with electrical heater, having an average utilised power input < 75 W at constant running conditions	
		Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	
		(b) (I) Lead in bearing shells and bushes for refrigerant-containing hermetic scroll compressors with a stated electrical power input equal or below 9 kW for heating, ventilation, air conditioning and refrigeration (HVACR) applications	
13	(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	
15		Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	
16		Lead in linear incandescent lamps with silicate coated tubes	
17		Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	

(dates of applicability expired)

No.		Exemption	Scope and dates of applicability
18	(a)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as speciality lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb)	
19		Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact energy saving lamps (ESL)	
20		Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs)	
		Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	
21	(a)	Cadmium when used in colour printed glass to provide filtering functions, used as a component in lighting applications installed in displays and control panels of EEE	Except applications covered by entry 21(b) or entry 39. Expires on 21 July 2021.
	(b)	Cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	Except applications covered by entry 21(a) or 39. Expires on 21 July 2021.
	(c)	Lead in printing inks for the application of enamels on other than borosilicate glasses	Expires on 21 July 2021.
25		Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	
26		Lead oxide in the glass envelope of black light blue lamps	

(dates of applicability expired)

No.	Exemption	Scope and dates of applicability
27	Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers	
30	Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more	
31	Lead in soldering materials in mercury free flat fluorescent lamps (which, e.g. are used for liquid crystal displays, design or industrial lighting)	
33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers	
36	Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display	
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	Expires on 21 July 2021.
38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	
39	Cadmium in colour converting II-VI LEDs (< 10 µg Cd per mm ² of light-emitting area) for use in solid state illumination or display systems	
40	Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment	

(the texts of the RoHS Directive)

No.		Scope and dates of applicability
1	(a)	Expires on 31 December 2011; 3,5 mg may be used per burner after 31 December 2011 until 31 December 2012; 2,5 mg shall be used per burner after 31 December 2012 requested for renewal:16 January 2015
		Expires on 31 December 2011; 3,5 mg may be used per burner after 31 December 2011 requested for renewal:16 January 2015
	(c)	requested for renewal:16 January 2015
	(d)	requested for renewal:16 January 2015
	(e)	No limitation of use until 31 December 2011; 7 mg may be used per burner after 31 December 2011 requested for renewal:16 January 2015
		requested for renewal:16 January 2015
	(f)	requested for renewal:16 January 2015
2	(a)	Expires on 31 December 2011; 4 mg may be used per lamp after 31 December 2011 requested for renewal:16 January 2015
		Expires on 31 December 2011; 3 mg may be used per lamp after 31 December 2011 requested for renewal:16 January 2015
		Expires on 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011 requested for renewal:16 January 2015
		Expires on 31 December 2011; 3,5 mg may be used per lamp after 31 December 2012 requested for renewal:16 January 2015
		Expires on 31 December 2011; 5 mg may be used per lamp after 31 December 2011 requested for renewal:16 January 2015
	(b)	No longer valid End:13 April 2012
		No longer valid End:13 April 2016
		No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011 requested for renewal:16 January 2015
		No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011 requested for renewal:16 January 2015

(the texts of the RoHS Directive)

No.		Scope and dates of applicability
3	(a)	No limitation of use until 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011 requested for renewal:16 January 2015
		No limitation of use until 31 December 2011; 5 mg may be used per lamp after 31 December 2011 requested for renewal:16 January 2015
	(c)	No limitation of use until 31 December 2011; 13 mg may be used per lamp after 31 December 2011 requested for renewal:16 January 2015
4	(a)	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011 requested for renewal:16 January 2015
		No limitation of use until 31 December 2011; 30 mg may be used per burner after 31 December 2011 requested for renewal:16 January 2015
	(b)	No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011 requested for renewal:16 January 2015
		No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011 requested for renewal:16 January 2015
	(c)	No limitation of use until 31 December 2011; 25 mg may be used per burner after 31 December 2011 requested for renewal:16 January 2015
		No limitation of use until 31 December 2011; 30 mg may be used per burner after 31 December 2011 requested for renewal:16 January 2015
		No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011 requested for renewal:16 January 2015
	(d)	No longer valid End:13 April 2015
		requested for renewal:16 January 2015
	(e)	requested for renewal:16 January 2015
	(f)	requested for renewal:16 January 2015
	(g)	No longer valid End:31 December 2018
		requested for renewal:16 January 2015
5	(a)	No longer valid End:21 July 2016
		requested for renewal:16 January 2015

(the texts of the RoHS Directive)

No.		Scope and dates of applicability
6	(a)	No longer valid
		End:30 June 2019
		I requested for renewal:17 January 2020
	(b)	No longer valid
		End:30 June 2019
		I requested for renewal:3 December 2019
7	(b)	II requested for renewal:8 November 2019
		(c) requested for renewal:3 January 2020
	(a)	requested for renewal:6 January 2020
	(b)	No longer valid
		End:21 July 2016
	(c)	I requested for renewal:2 January 2020
		II requested for renewal:19 December 2019
		No longer valid
		III Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013
8	(a)	IV Valid - no longer renewable
		End : 21 July 2021
	(b)	No longer valid
		Expires on 1 January 2012 and after that date may be used in spare parts for EEE placed on the market before 1 January 2012
9	(a)	No longer valid
		End:5 March 2020
		I No longer valid
		End:5 March 2021
	(b)	II requested for renewal:20 January 2020
		No longer valid
		End:5 July 2018
11	(a)	I No longer valid
		End:21 July 2019
	(b)	No longer valid
		May be used in spare parts for EEE placed on the market before 24 September 2010
	(b)	Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013

(the texts of the RoHS Directive)

No.		Scope and dates of applicability
12		<p>No longer valid</p> <p>May be used in spare parts for EEE placed on the market before 24 September 2010</p>
13		<p>Applies to all categories; expires on:</p> <ul style="list-style-type: none"> — 21 July 2023 for category 8 in vitro diagnostic medical devices; — 21 July 2024 for category 9 industrial monitoring and control instruments and for category 11; — 21 July 2021 for all other categories and subcategories. <p>requested for renewal: 28 November 2019</p> <p>No longer valid</p> <p>End: 5 July 2018</p> <p>(I)</p> <p>Applies to categories 1 to 7 and 10; expires on 21 July 2021 for categories 1 to 7 and 10</p> <p>requested for renewal: 28 November 2019</p> <p>更新要求: 2019/11/28</p> <p>(II)</p> <p>Applies to categories 1 to 7 and 10; expires on 21 July 2021 for categories 1 to 7 and 10</p> <p>requested for renewal: 28 November 2019</p> <p>(III)</p> <p>Applies to categories 1 to 7 and 10; expires on 21 July 2021 for categories 1 to 7 and 10</p> <p>requested for renewal: 28 November 2019</p>
14		<p>No longer valid</p> <p>Expired on 1 January 2011 and after that date may be used in spare parts for EEE placed on the market before 1 January 2011</p>
15		<p>No longer valid</p> <p>End: 29 February 2020</p> <p>(a)</p> <p>Applies to categories 1 to 7 and 10 and expires on 21 July 2021.</p> <p>requested for renewal: 16 January 2020</p>
16		<p>No longer valid</p> <p>End: 1 September 2013</p>
17		<p>No longer valid</p> <p>End: 21 July 2016</p>
18		<p>No longer valid</p> <p>End: 1 January 2011</p> <p>(b)</p> <p>requested for renewal: 20 January 2020</p>
19		<p>No longer valid</p> <p>End: 1 June 2011</p>
20		<p>No longer valid</p> <p>End: 1 June 2011</p>

(the texts of the RoHS Directive)

No.		Scope and dates of applicability
21	(a)	Applies to categories 1 to 7 and 10 except applications covered by entry 21(b) or entry 39 and expires on 21 July 2021. Valid - no longer renewable End : 21 July 2021
		Applies to categories 1 to 7 and 10 except applications covered by entry 21(a) or 39 and expires on 21 July 2021. Valid - no longer renewable End : 21 July 2021
		Applies to categories 1 to 7 and 10 and expires on 21 July 2021. Valid - no longer renewable End : 21 July 2021
23		No longer valid
		May be used in spare parts for EEE placed on the market before 24 September 2010
24		requested for renewal:10 January 2020
25		No longer valid
		End:21 July 2016
26		No longer valid
		End:1 June 2011
27		No longer valid
		End:24 September 2010
29		requested for renewal:20 October 2019
30		No longer valid
		End:21 July 2016
31		No longer valid
		End:21 July 2016
32		requested for renewal:20 January 2020
33		No longer valid
		End:21 July 2016
34		requested for renewal:15 January 2020
36		No longer valid
		End:1 July 2010
37		Valid - no longer renewable
		End : 21 July 2021
38		No longer valid
		End:21 July 2016
39		No longer valid
		End:20 November 2018
	(a)	requested for renewal:30 April 2018

(the texts of the RoHS Directive)

No.	Scope and dates of applicability
40	No longer valid End:31 December 2013
41	Valid - no longer renewable End : 31 March 2022